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Date: April 2, 2007

**PATENT**

Attorney's Docket No. Z-0001

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of

NANCY K. SMRCKA et al.

Serial No. 09/782,131

Filed: February 12, 2001

For: SYSTEM AND METHOD FOR NEW PRODUCT  
CLEARANCE AND DEVELOPMENT

Customer No.: 34014

Group Art Unit: 3629

Examiner: Cang G. Thai

**AMENDED BRIEF ON APPEAL**

Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an appeal from the decision of the Primary Examiner dated November 17, 2005, finally rejecting claims 1, 3-11, 13-65, and 67-70 of the above-identified application. The Appellants noticed appeal on May 16, 2006. An appeal brief was due on July 16, 2006. It was mailed on October 17, 2006 with a petition for a four-month extension of time and requisite fees enclosed, thereby setting November 17, 2006 as the date for which a brief in triplicate must be submitted. A Notice of Non-Compliant Appeal Brief was mailed December 1, 2006 and corrected Appeal Brief was due on January 1, 2007. A petition for a three-month extension of time and requisite fees are also enclosed, thereby setting April 1, 2007 as the date for which a corrected brief in triplicate

must be submitted. Since April 1, 2007 falls on a Sunday, the extended due date is April 2, 2007. In accordance with 37 CFR § 1.192(a), two additional copies of the Brief and the requisite fee are enclosed herewith.

### **REAL PARTY IN INTEREST**

The real party in interest for the above-identified application is Chevron Oronite Company LLC.

### **RELATED APPEALS AND INTERFERENCES**

There are currently no appeals or interferences of which Appellants, their attorney or assignee is aware, which will directly affect or be affected by or have a bearing on the Board's decision in the pending appeal.

### **STATUS OF CLAIMS**

The application was filed with sixty-nine (69) claims. Claims 2, 12, and 66 were canceled. Claim 70 was added. Claims 1, 3-11, 13-65, and 67-70 stand rejected and are appealed. A copy of the appealed claims appears in Appendix A attached hereto.

### **STATUS OF AMENDMENTS**

No amendments were filed after the final rejection.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

The independent claims involved in the appeal are claims 1, 16, 39, 56, and 67.

The invention, as recited in independent claim 1, defines a method of product development and commercialization including: determining customer requirements for a chemical product (page 1, line 14; page 2, line 23, page 6, lines 14-15 and 25-26 and page 8, line 4) (310, Fig. 3; 110, Fig. 1; and 210, Fig. 2); determining the return on investment of developing said chemical product per said customer requirements (page 6, lines 16-20) (320, Fig. 3); setting final requirements (page 6,

lines 21-23) (330, Fig. 3); approving said final requirements (page 8, lines 24-27); selecting a base technology (page 6, lines 22 – page 7, line 3) (340, Fig. 3); modifying said base technology to meet said final requirements (page 7, lines 4-6) (350, Fig. 3); approving said base technology selection and said modifications (page 8, lines 24-27); testing said modified base technology to verify it meets said final requirements (page 7, lines 7-10) (360, Fig. 3); approving said testing of said modified base technology (page 8, lines 24-27); checking compliance with at least a portion of the relevant health and safety laws and regulations of at least a portion of the jurisdictions where the modified base technology will be made, transported, or sold (page 2, line 16; page 7, lines 11-26); performing any required compliance tests, and electronically providing the results of any required tests to a government agency in the format approved by the government agency (*id.*); approving said assurance of compliance (page 8, lines 24-27); and manufacturing/commercializing said modified base technology; storing all data entered, retrieved, processed, created, stored, or modified in one or more central or distributed mutually accessible computer readable databases (page 10, lines 19-25); and sending an electronic mail notification to a participant in the method or an interested person upon completion of at least one of the steps of the method; wherein the electronic mail notification is controlled by a software code portion listener module which listens for completion of a step being stored in the database, and upon such occurrence of the completion being stored, the listener module passes an instruction to an email application to send an pre-determined message to a participant (*id.*); immediately prior to each approval step (d), (g), (i), or (k) above, locking portions of the database sufficient to prevent continuation of the process without completing the respective approval step and unlocking the locked portions of the database after the respective approval step is completed (page 9, lines 1-14).

The invention, as recited in independent claim 16, contains the same elements as independent claim 1, but additionally after most steps contains a limitation for storing the results of that respective step in a computer (p. 7, lines 9-10; p. 11, lines 8-11; p. 13, and lines 16-17); and the locking and unlocking of database steps are placed after some different steps than in claim 1.

The invention, as recited in independent claim 39 and 56 has the same limitations as independent claim 16 with some variations as to how they are combined.

The invention, as recited in independent claim 67, is a system claim for a product development and commercialization management information system including: a collaborative work space wherein multiple participants can individually and jointly work on a project (page 12, lines 23-24); configured at least partially automating workflow of chemical product development and commercialization projects from determining customer requirements and financial analysis of project viability (page 12, lines 24 – page 13, line 3), through determining a base technology (*id.*), determining any needed modifications of said base technology (*id.*), and testing said modified base technology to verify compliance with customer requirements (*id.*), and configured for adding/changing the participants in a project (page 13, line 4); configured for assigning, tracking and providing notification of tasks relating to a chemical product development project or group of projects (page 13, lines 5-6); configured for providing a collaborative work space comprising a secure/searchable communication repository linked to chemical product development projects or logical grouping of projects and their tasks (page 13, lines 12-15), for communications with and between project participants and customers (page 4, lines 13-15), configured for recording, channeling, and archiving said communications (*id.*); configured for financial tracking and/or forecasting for a project or a logical grouping of projects (page 4, lines 16-19); configured for importing lab data (*id.*); configured for providing a secure and searchable document repository linked to projects or logical groupings of projects, wherein said documents are in final format (*id.*); and a computer readable database: configured for storing a chemical product development project's history and details, said history and details comprising the types of data, time schedules, status of all steps in the project, contact information, results of all steps in the project, and documents and information supporting all steps in the project (page 4, lines 16-26); and configured for searching said stored history and details and for generating reports from same (*id.*); configured for sending an electronic mail notification to pre-determined persons upon updating of the database (page 10, lines 19-25); wherein the electronic mail notification is controlled by a software code portion listener module which listens for updating of the database, and upon such occurrence of the updating, the listener module passes an instruction to an email application to send an pre-determined message to the pre-determined persons (*id.*); a computer network (410, Fig. 4) for connecting said collaborative workspace and computer readable database; and means for providing for different levels of secure access for different users (page 4, line 26; page 13, lines 22-23).

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The following sole ground of rejection is presented for review:

Claims 1, 3-11, 13-65, and 67-70 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. No. 6,405,364 (Bowman-Amuah). (Final Office Action at p. 2).

**ARGUMENT**

**ARGUMENT AS TO REJECTION OF CLAIMS 1, 3-11, 13-65, AND 67-70  
FOR ANTICIPATION BY BOWMAN-AMUAH UNDER 35 U.S.C. §102(e)**

**PTO Position**

The Examiner argues that Bowman-Amuah teaches all limitations of all of the pending claims, claims 1, 3-11, 13-65, and 67-70.

**Appellants' Position**

In order for a prior art reference to anticipate a claim under 35 U.S.C. 102, all limitations of the claim must expressly or implicitly be taught by the reference. *E.g., Bristol-Myers Squibb Co. v. Ben Venue Labs, Inc.*, 246 F.3d 1368, 1374 (Fed. Cir. 2001) ("[A] claim is anticipated if each and every limitation is found either expressly or inherently in a single prior art reference." citing *Celeritas Techs. Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1360, 47 U.S.P.Q.2D 1516, 1522 (Fed. Cir. 1998).)

The table below shows elements in the appealed claims that are not taught by Bowman-Amuah. A detailed analysis follows after the table.

a development process for a chemical product,	(see, e.g., pending claims, elements 1(a) and (b), 16(a) and (c), 39(a) and (c), 56(a), 56(d)(5)(a), 67(a)(1), (2), and (3)).
selecting a base technology,	(see, e.g., pending claims, elements 1(e), 16(k), 39(e).

	56(d)(1)).
modifying the base technology,	(see, e.g., pending claims, elements 1(f), 39(g), 56(d)(3)).
performing compliance tests on the modified base technology, and electronically sending them to a government agency,	(see, e.g., pending claims, elements 1(j), 70).
Where the compliance tests relate to health and safety laws,	(see, e.g., pending claims, elements 1(j), 16(y), 39(y), 56(d)(5)(e), 70).
using a software listener module to "listen" for the completion of a step, and upon the completion sending an email to a participant,	(see, e.g., pending claims, elements 1(n), 16(dd), 39(p), 56(d)(5)(j), 67(b)(3)).
locking a portion of the database to prevent going to the next step until the prior step is approved,	(see, e.g., pending claims, elements 1(o), 16(g), (o), and (u), 39(l), 56(d)(5)(f)).
Importing lab data	(see, e.g., pending claim 67(a)(5)).

**Claims 1, 3-11, 13-15, And 16-38 Stand As a Group**

**A. Bowman-Amuah does not teach a development process for a chemical product.**

In the Amendment filed August 22, 2005, the claims were amended to limit them to development of a chemical product. This limitation is present in all pending independent claims, specifically elements 1(a) and (b), 16(a) and (c), 39(a) and (c), 56(a), 56(d)(5)(a), and 67(a)(1), (2), and (3)).

Bowman-Amuah is limited solely to the development of computer software. It does not teach or suggest chemical product development systems. The Examiner cites Bowman-Amuah at column 2, lines 19-21 "requirements are specified for both a system to be built and an implementation strategy to fulfill the requirements") as teaching this limitation. Final Rejection at p. 2. That text does not teach development of a chemical

product. There is no teaching of development of a chemical product. The whole specification is limited to the process of software development, see, e.g.:

- column 1, lines 24-31, introducing the relevant field of the invention:  
"An important use of computers is the transfer of information over a network. Currently, the largest computer network in existence is the Internet. The Internet is a worldwide interconnection of computer networks that communicate using a common protocol. Millions of computers, from low end personal computers to high-end super computers are coupled to the Internet."
- column 2, lines 5-15, identifying the problem to be solved:  
"The communication model under the conventional Web environment provides a very limited level of interaction between clients and servers. In many systems, increasing the level of interaction between components in the systems often makes the systems more robust, but increasing the interaction increases the complexity of the interaction and typically slows the rate of the interaction. Thus, the conventional Web environment provides less complex, faster interactions because of the Web's level of interaction between clients and servers."

The Examiner cites Bowman-Amuah at column 2, lines 31-38 as encompassing chemical product development. Final Rejection at p. 20. That text reads:

"In one embodiment of the present invention, specifying the requirements of the system to be built and the implementation strategy to fulfill the requirements may be carried out using tools such as data modeling tools, process modeling tools, event modeling tools, performance modeling tools, object modeling tools, component modeling tools, reuse support tools, prototyping tools, application logic design tools, database design tools, presentation design tools, communication design, and usability test tools. In another embodiment of the present invention, improving the performance and maintenance of the system may be carried out using tools such as interactive navigation tools, graphical representation tools, extraction tools, repository tools, restructuring tools, and data name rationalization tools." *Emphasis added.*

The tools listed, e.g., database design tools and object modeling tools, are all specific to software/information system development. Accordingly, the limitation of the instant claims to a chemical product development process is not anticipated by Bowman-Amuah.

B. Bowman-Amuah does not teach selecting a base technology.

Bowman-Amuah does not teach selecting a base technology as part of the new product development methodology. This limitation is present in independent claims 1, 39, and 56, specifically elements 1(e), 39(e), and 56(d)(1).

The Examiner cites Bowman-Amuah at column 36, lines 32-35 ("The success of the entire design effort depends on the quality of the work performed to gather, document, communicate, and analyze requirements in the early stages.") as disclosing this limitation. Final Rejection at p. 3. This does not disclose the "selecting a base technology" limitation of the independent claims.

C. Bowman-Amuah does not teach modifying the selected base technology.

Bowman-Amuah does not teach modifying the selected base technology. This limitation is present in independent claims 1, 39, and 56, specifically elements 1(f), 39(g), and 56(d)(3).

The Examiner cites Bowman-Amuah at column 55, lines 7-8 ("Each of these groups is also assigned specific read/write/delete/modify authority.") as disclosing this limitation. Final Rejection at p. 3. This does not disclose the "modifying the selected a base technology" limitation of the independent claims. The "modifying referred to in Bowman-Amuah, when read in context, is the assigning of a computer system's user access rights to each user, giving some users read-only rights and some users other rights, e.g., the right to modify a file. See Bowman-Amuah at column 55, lines 2-29.

D. Bowman-Amuah does not teach Compliance Testing and Reporting to Government Agencies.

The Examiner cites Bowman-Amuah at column 59, lines 40-43 ("Configuration Management tools to help control versioning of code, changes to code, and migration of code (and accompanying design and test documentation) through the development and testing environments") as disclosing this limitation. Final Rejection at p. 4. This does not disclose the limitation of the instant independent claims. When read in context, the "testing environments" referred to Bowman-Amuah refers to a standard step in software



development, which is the testing of software in non-commercial, non-production environment. The section heading is "How large is the application or development team" and this section of Bowman-Amuah deals with how to manage a large software development project with many contributors. *See* Bowman-Amuah at column 55, lines 34-56. It does not teach testing for compliance with government regulations, especially health and safety regulations.

- E. Bowman-Amuah does not teach using a software listener module to "listen" for the completion of a step, and upon the completion sending an email to a participant.

Bowman-Amuah does not teach using a software listener module to "listen" for the completion of a step, and upon the completion sending an email to a participant. In the same Amendment filed August 22, 2005, claims 1, 16, 39, 56, and 67 were amended, and claim 70 was added, to use of a listener module to trigger the sending of an electronically compliance reports to a government agency. *See* elements 1(n), 16(dd), 39(p), 56(d)(5)(j), 67(b)(3), and 70. Bowman-Amuah does not teach or suggest this limitation.

The Examiner cites Bowman-Amuah at Fig. 2, ref. no. 238 ("Email") as disclosing this limitation. Final Rejection at p. 5. This does not disclose this limitation of the instant independent claims. The only reference to ref. no. 238 in the Bowman-Amuah disclosure is at column 45, line 53 – column 46, line 19. The section heading is "How distributed are the project teams" and the section relates to how the many project participants will communicate. It does not teach the limitation of use a listener module to cause the sending of an email upon completion of a step.

- F. Bowman-Amuah does not teach locking a portion of the database to prevent going to the next step until the prior step is approved.

Bowman-Amuah does not teach locking a portion of the database to prevent going to the next step until the prior step is approved. This limitation is present in independent claims 16, 39, and 56, specifically elements 16(g), (o), and (u), 39(l), and 56(d)(5)(f).

The Examiner cites Bowman-Amuah at Fig. 2, ref. no. 246 ("Shared Workspace") as disclosing this limitation. Final Rejection at p. 5. This does not disclose this limitation of

the instant independent claims. The only reference to ref. no. 246 in the disclosure is at column 48, lines 1-19. The section heading is "b) Is video conferencing the right medium for the desired purpose" and the section relates to how the many project participants will communicate. It does not teach the limitation of locking a portion of the database to prevent going to the next step until the prior step is approved.

**Claims 39-55 And 56-65 Stand As A Group**

A. Bowman-Amuah does not teach modifying the selected base technology.

Bowman-Amuah does not teach modifying the selected base technology. This limitation is present in independent claims, e.g., 39(g), and 56(d)(3). The discussion above relating to Claim group 1, 3-11, 13-15, and 16-38 is incorporated herein by reference.

B. Bowman-Amuah does not teach performing compliance tests on the modified base technology, in particular relating to health and safety laws, and electronically sending them to a government agency.

Bowman-Amuah does not teach performing compliance tests on the modified base technology, and electronically sending them to a government agency. In the Amendment filed August 22, 2005, a limitation was added which is applicable to chemical products but not to computer software development. This was a limitation for a step for testing the modifying base technology for compliance of health and safety laws. Bowman-Amuah does not teach or suggest testing for compliance of health and safety laws and regulations. This is consistent with the teaching in Bowman-Amuah relating solely to software system development. Health and safety testing is important for a new chemical product but not for a software product. This limitation of compliance testing and reporting is present in all independent claims elements, e.g., 39(k), 56(d)(5)(e), and 70.

**Claims 67-70 Stand As A Group**

A. Bowman-Amuah does not teach importing Lab Data

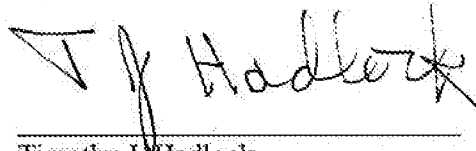
Claim 67 recites "configured for importing lab data" (see 67(a)(5)). This is not taught or suggested in Bowman-Amuah.

**CONCLUSION**

The Examiner has failed to apply the law correctly regarding anticipation. Since all of the limitations of each of the pending claims are not expressly or implicitly taught by Bowman-Amuah, there can be no finding of anticipation under 35 U.S.C 102. *Supra*, *Bristol-Myers Squibb Co.* at 1374. As a result, the Examiner impermissibly found the pending claims anticipated by the Bowman-Amuah reference.

It is believed that in view of the foregoing arguments, the Board of Appeals will appreciate that Appellants have made an unexpected discovery and a distinct advance in the art which is not disclosed or suggested by the art of record. It is, therefore, respectfully solicited that the Examiner's rejection of the appealed claims be reversed and that the claims be allowed.

Respectfully submitted,



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Enclosures

April 2, 2007

**Claims Appendix**

**Listing of Appealed Claims**

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- Claim 1      A method of product development and commercialization comprising:
- (a)      determining customer requirements for a chemical product;
  - (b)      determining the return on investment of developing said chemical product per said customer requirements;
  - (c)      setting final requirements;
  - (d)      approving said final requirements;
  - (e)      selecting a base technology;
  - (f)      modifying said base technology to meet said final requirements;
  - (g)      approving said base technology selection and said modifications;
  - (h)      testing said modified base technology to verify it meets said final requirements;
  - (i)      approving said testing of said modified base technology;
  - (j)      checking compliance with at least a portion of the relevant health and safety laws and regulations of at least a portion of the jurisdictions where the modified base technology will be made, transported, or sold;  
performing any required compliance tests, and electronically providing the results of any required tests to a government agency in the format approved by the government agency;

- (k) approving said assurance of compliance; and
- (l) manufacturing/commercializing said modified base technology;
- (m) storing all data entered, retrieved, processed, created, stored, or modified in one or more central or distributed mutually accessible computer readable databases; and
- (n) sending an electronic mail notification to a participant in the method or an interested person upon completion of at least one of the steps of the method; wherein the electronic mail notification is controlled by a software code portion listener module which listens for completion of a step being stored in the database, and upon such occurrence of the completion being stored, the listener module passes an instruction to an email application to send a pre-determined message to a participant;
- (o) immediately prior to each approval step (d), (g), (i), or (k) above, locking portions of the database sufficient to prevent continuation of the process without completing the respective approval step and unlocking the locked portions of the database after the respective approval step is completed.

Claim 3      The method of claim 1 further comprising sending an electronic mail notification to a participant in the method or an interested person upon completion of one of the steps of the method.

Claim 4      The method of claim 2, wherein all participants in the method and authorized persons may access at least a portion of said database.

Claim 5      The method of claim 4, wherein said access includes a plurality of pre-defined views, thereby permitting quick information sorting.

- Claim 6      The method of claim 4, wherein said access to said database is available globally from any personal computer having installed thereon a client application configured to perform database management system functions with said database and having a network connection configured to allow communication between said client application and said database.
- Claim 7      The method of claim 1, wherein the steps are performed sequentially such that a later step is not performed until all earlier steps are completed.
- Claim 8      The method of claim 7, further comprising locking at least a portion of said steps prior to the completion of all earlier steps and unlocking said steps upon completion of all earlier steps, thereby preventing entering a step out of order without authorization.
- Claim 9      The method of claim 1, further comprising locking at least a portion of said steps after their completion, thereby preventing revision of said steps without authorization.
- Claim 10     The method of claim 1, further comprising terminating the method at any step, wherein said termination prevents further revision of any step in the method.
- Claim 11     The method of claim 1 further comprising a step to maintain version control of said approved final requirements in step (d), said approved base technology selection and modifications in step (g), or said approved qualification of modified base technology in step (i).
- Claim 13     The method of claim 1, further comprising recording in said database action items for completing one or more steps of the method, electronically notifying the responsible persons of said actions items, and tracking completion of said action items.

- Claim 14      The method of claim 1, wherein one or more of said steps is at least in part completed by selecting items from a menu, list box, drop down list, or other selection device available in a personal computer graphical user interface, thereby reducing typing time and errors.
- Claim 15      The method of claim 1, further comprising plotting the actual versus planned progress of said steps on a timeline, for measuring and improving performance and productivity of practicing said method.
- Claim 16      A method of product development and commercialization comprising:
- (a)      determining customer requirements for a chemical product;
  - (b)      storing said requirements in a computer readable database;
  - (c)      determining the return on investment of developing said chemical product per said customer requirements;
  - (d)      storing said return on investment in said computer readable database;
  - (e)      setting final requirements;
  - (f)      storing said final requirements in said computer readable database;
  - (g)      locking at least a portion of the computer readable database sufficient to prevent continuation of later steps without approval of prior steps;
  - (h)      approving said final requirements;
  - (i)      unlocking the portion of the computer readable database locked in step (g);

- (j) storing said approval in said computer readable database;
- (k) selecting a base technology;
- (l) storing said selection in said computer readable database;
- (m) modifying said base technology to meet said final requirements;
- (n) storing information of said modification in said computer readable database;
- (o) locking at least a portion of the computer readable database sufficient to prevent continuation of later steps without approval of prior steps;
- (p) approving said base technology selection and said modifications;
- (q) unlocking the portion of the computer readable database locked in step (o);
- (r) storing said approval in said computer readable database;
- (s) testing said modified base technology to verify it meets said final requirements;
- (t) storing information from said testing in said computer readable database;
- (u) locking at least a portion of the computer readable database sufficient to prevent continuation of later steps without approval of prior steps;
- (v) approving said testing of said modified base technology;



- (w) unlocking the portion of the computer readable database locked in step (u);
- (x) storing said approval in said computer readable database;
- (y) checking compliance with at least a portion of the relevant health and safety laws and regulations of at least a portion of the jurisdictions where the modified base technology will be made, transported, or sold;
- (z) approving said checking of compliance;
- (aa) storing said approval in said computer readable database; and
- (bb) commercializing said modified base technology; and
- (cc) approving said commercialization and thereby locking all steps of said method, thereby preventing any further revision of said steps
- (dd) sending an electronic mail notification to a participant in the method or an interested person upon completion of at least one of the steps of the method; wherein the electronic mail notification is controlled by a software code portion listener module which listens for completion of a step being stored in the database, and upon such occurrence of the completion being stored, the listener module passes an instruction to an email application to send a pre-determined message to a participant.

Claim 17      The method of claim 16, further comprising storing all data entered, retrieved, processed, created, stored, or modified in one or more central or distributed mutually accessible databases.

- Claim 18      The method of claim 16, wherein said access to said database is available globally from any personal computer having suitable client software installed and suitable network connectivity.
- 
- Claim 19      The method of claim 16, wherein all participants in the method and authorized persons may access at least a portion of said database, and the graphical user interface presented matches the person's type of database access.
- Claim 20      The method of claim 16, wherein said access includes a plurality of pre-defined views, thereby permitting quick information sorting and searching.
- Claim 21      The method of claim 16, wherein the steps are performed sequentially such that a later step is not performed until all earlier steps are completed.
- Claim 22      The method of claim 21, further comprising locking at least a portion of said steps prior to the completion of all earlier steps and unlocking said steps upon completion of all earlier steps, thereby preventing entering a step out of order without authorization.
- Claim 23      The method of claim 16, further comprising locking at least a portion of said steps after their completion, thereby preventing revision of said steps without authorization.
- Claim 24      The method of claim 16, further comprising maintaining version control of approved final requirements, approved base technology selection and modifications, or approved qualification of modified base technology.
- Claim 25      The method of claim 16, further comprising terminating the method at any step, wherein said termination prevents further revision of any step in the method.
- Claim 26      The method of claim 16, further comprising during any step sending an electronic mail notification to a participant in the method or an interested person.

- Claim 27      The method of claim 16, further comprising automatically sending e-mail notification to participants when any approval step is performed.
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- Claim 28      The method of claim 16, further comprising recording in said database action items for completing one or more steps of the method, electronically notifying the responsible persons of said actions items, and tracking completion of said action items.
- Claim 29      The method of claim 16, further comprising preventing said approval step (t) from being performed while any action items are incomplete.
- Claim 30      The method of claim 29, wherein upon a termination of an instance of said method having incomplete action items results in sending an automatic electronic mail notification of said termination and the respective incomplete action item to each respective participant responsible for each respective incomplete action item.
- Claim 31      The method of claim 16, wherein one or more of said steps is at least in part completed by selecting items from a menu, list box, drop down list, or other selection device available in a personal computer graphical user interface, thereby reducing typing time and errors.
- Claim 32      The method of claim 16, wherein database users can enter new items in menus, list boxes, drop down lists or other selection devices after which these new items become part of the selection lists for instances of said method.
- Claim 33      The method of claim 16, wherein at least a portion of said steps comprise copying template forms that are stored in the database thereby insuring data consistency,

- Claim 34      The method of claim 33, wherein said template forms are revisable at any time by authorized administrators and wherein upon said revision the template forms become immediately available for use by future instances of said method.
- 
- Claim 35      The method of claim 16, wherein reference forms are stored in the database and are made available to users thereby providing assistance in completing said steps.
- Claim 36      The method of claim 35, wherein said reference forms are revisable at any time by authorized administrators and wherein upon said revision the reference forms become immediately available for use by future instances of said method.
- Claim 37      The method of claim 16, wherein administration of the database comprises providing, changing or revoking user access, maintaining items in various selection lists, maintaining template forms, reference forms and help forms, and wherein said administration is performed only by authorized persons
- Claim 38      The method of claim 37, further comprising performing said administration in a graphical user interface and wherein said administration does not require knowledge of computing languages.
- Claim 39      A method of product development comprising:
- (a)      determining customer requirements for a chemical product;
  - (b)      storing said requirements in a computer readable database;
  - (c)      evaluating economics of developing said chemical product per said customer requirements;
  - (d)      storing said evaluation in said computer readable database;

- (e) selecting a base technology;
- (f) storing said selection in said computer readable database;
- (g) determining modifications needed of said base technology to meet said final requirements, thereby resulting in a modified base technology;
- (h) storing information of said modified base technology in said computer readable database; and
- (i) testing said modified base technology to verify it meets said final requirements;
- (j) storing details and results of said testing in said computer readable database;
- (k) checking compliance with at least a portion of the relevant health and safety laws and regulations of at least a portion of the jurisdictions where the modified base technology will be made, transported, or sold;
- (l) locking at least a portion of the computer readable database sufficient to prevent continuation of later steps without approval of the checking compliance step (k);
- (m) approving said checking of compliance; and
- (n) unlocking the portion of the computer readable database locked in step (l);
- (o) storing said approval in said computer readable database

- (p) sending an electronic mail notification to a participant in the method or an interested person upon completion of at least one of the steps of the method; wherein the electronic mail notification is controlled by a software code portion listener module which listens for completion of a step being stored in the database, and upon such occurrence of the completion being stored, the listener module passes an instruction to an email application to send an pre-determined message to a participant.

- Claim 40 The method of claim 39, further comprising after said storing step (j), a step for commercializing said modifying base technology.
- Claim 41 The method of claim 39, further comprising storing all data entered, retrieved, processed, created, stored, or modified in one or more central or distributed databases.
- Claim 42 The method of claim 39, wherein access to said database is available globally from any personal computer having suitable client software installed and suitable network connectivity.
- Claim 43 The method of claim 39, wherein all participants in the method and authorized persons may access at least a portion of said database, and the graphical user interface presented matches the person's type of database access.
- Claim 44 The method of claim 39, wherein said access includes a plurality of pre-defined views.
- Claim 45 The method of claim 39, wherein the steps are performed in sequentially such that a later step is not performed until all earlier steps are completed.
- Claim 46 The method of claim 45, further comprising locking at least a portion of said steps prior to the completion of all earlier steps and unlocking said steps upon

completion of all earlier steps, thereby preventing entering a step out of order without authorization.

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- Claim 47      The method of claim 39, further comprising locking at least a portion of said steps after their completion, thereby preventing revision of said steps without authorization.
- Claim 48      The method of claim 39, further comprising terminating the method at any step, wherein said termination prevents further revision of any step in the method.
- Claim 49      The method of claim 39, further comprising during any step sending an electronic mail notification to a participant in the method or an interested person.
- Claim 50      The method of claim 39, further comprising automatically sending e-mail notification to participants when any approval step is performed.
- Claim 51      The method of claim 39, further comprising recording in said database action items for completing one or more steps of the method, electronically notifying the responsible persons of said actions items, and tracking completion of said action items.
- Claim 52      The method of claim 39, further comprising preventing said approval step (t) from being performed while any action items are incomplete.
- Claim 53      (Original)      The method of claim 39, wherein upon a termination of an instance of said method having incomplete action items results in sending an automatic electronic mail notification of said termination and the respective incomplete action item to each respective participant responsible for each respective incomplete action item.
- Claim 54      The method of claim 39, wherein administration of the database comprises providing, changing or revoking user access, maintaining items in various

selection lists, maintaining template forms, reference forms and help forms, and wherein said administration is performed only by authorized persons

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Claim 55      The method of claim 54, further comprising performing said administration in a graphical user interface and wherein said administration does not require knowledge of computing languages.

Claim 56      A method of product development comprising:

- (a)      determining customer requirements for a chemical product;
- (b)      storing said requirements in a computer readable database;
- (c)      determining if base technology modifications are needed to meet said customer requirements;
- (d)      if base technology modifications are needed to meet said customer requirements, then said method further comprises:
  - (1)      selecting a base technology;
  - (2)      storing said selection in said computer readable database;
  - (3)      determining modifications needed of said base technology to meet said final requirements, thereby resulting in a modified base technology;
  - (4)      storing information of said modified base technology in said computer readable database; and



- (5) if the cost of said modification exceeds a predetermined amount, then said method further comprises:
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- (a) evaluating economics of developing said chemical product per said customer requirements;
  - (b) storing said evaluation in said computer readable database;
  - (c) qualifying said to verify it meets said final requirements;
  - (d) storing said qualification in said computer readable database;
  - (e) checking compliance with at least a portion of relevant health and safety laws and regulations of at least a portion of the jurisdictions where the modified base technology will be made, transported, or sold;
  - (f) locking a portion of the computer readable database;
  - (g) approving said checking of compliance; and
  - (h) unlocking the portion of the computer readable database locked in sub-step (5,f);
  - (i) storing said approval in said computer readable database;
  - (j) sending an electronic mail notification to a participant in the method or an interested person upon completion of at least one of the steps of the method; wherein the electronic mail notification is controlled by a software

code portion listener module which listens for completion of a step being stored in the database, and upon such occurrence of the completion being stored, the listener module passes an instruction to an email application to send an pre-determined message to a participant; and

- (6) manufacturing/commercializing said modified base technology.

- Claim 57      The method of claim 56, wherein said access to said database is available globally from any personal computer having suitable client software installed and suitable network connectivity.
- Claim 58      The method of claim 56, wherein all participants in the method and authorized persons may access at least a portion of said database, and the graphical user interface presented matches the person's type of database access.
- Claim 59      The method of claim 56, further comprising locking at least a portion of said steps prior to the completion of all earlier steps and unlocking said steps upon completion of all earlier steps, thereby preventing entering a step out of order without authorization.
- Claim 60      The method of claim 56, further comprising during any step sending an electronic mail notification to a participant in the method or an interested person.
- Claim 61      The method of claim 56, further comprising recording in said database action items for completing one or more steps of the method, electronically notifying the responsible persons of said actions items, and tracking completion of said action items.

- Claim 62      The method of claim 56, wherein upon a termination of an instance of said method having incomplete action items results in sending an automatic electronic mail notification of said termination and the respective incomplete action item to each respective participant responsible for each respective incomplete action item.
- Claim 63      The method of claim 16, wherein one or more of said steps is at least in part completed by selecting items from a menu, list box, drop down list, or other selection device available in a personal computer graphical user interface, thereby reducing typing time and errors.
- Claim 64      The method of claim 56, wherein administration of the database comprises providing, changing or revoking user access, maintaining items in various selection lists, maintaining template forms, reference forms and help forms, and wherein said administration is performed only by authorized persons
- Claim 65      The method of claim 64, further comprising performing said administration in a graphical user interface and wherein said administration does not require knowledge of computing languages.
- Claim 67      A product development and commercialization management information system comprising:
- (a)      a collaborative work space, wherein multiple participants can individually and jointly work on a project:
    - (1)      configured at least partially automating workflow of chemical product development and commercialization projects from determining customer requirements and financial analysis of project viability, through determining a base technology, determining any needed modifications of said base technology, and testing said modified base technology to verify compliance

with customer requirements, and configured for adding/changing the participants in a project;

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- (2) configured for assigning, tracking and providing notification of tasks relating to a chemical product development project or group of projects;
  - (3) configured for providing a collaborative work space comprising a secure/searchable communication repository linked to chemical product development projects or logical grouping of projects and their tasks, for communications with and between project participants and customers, configured for recording, channeling, and archiving said communications;
  - (4) configured for financial tracking and/or forecasting for a project or a logical grouping of projects;
  - (5) configured for importing lab data;
  - (6) configured for providing a secure and searchable document repository linked to projects or logical groupings of projects, wherein said documents are in final format; and
- (b) a computer readable database:
- (1) configured for storing a chemical product development project's history and details, said history and details comprising the types of data, time schedules, status of all steps in the project, contact information, results of all steps in the project, and documents and information supporting all steps in the project; and

- (2) configured for searching said stored history and details and for generating reports from same;
- (3) configured for sending an electronic mail notification to pre-determined persons upon updating of the database; wherein the electronic mail notification is controlled by a software code portion listener module which listens for updating of the database, and upon such occurrence of the updating, the listener module passes an instruction to an email application to send an pre-determined message to the pre-determined persons;
- (c) a computer network for connecting said collaborative workspace and computer readable database; and
- (d) means for providing for different levels of secure access for different users.

- Claim 68      The system of claim 67, wherein said network comprises the Internet.
- Claim 69      The system of claim 67, wherein said collaborative workspace comprises a client application comprising a web browser.
- Claim 70      The method of claim 16, wherein the checking compliance step further comprises electronically providing the results of such step to a government agency in a format approved by the government agency.

**Evidence Appendix**

None.

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**Related Proceedings Appendix**

None.

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